

Lin-Hendel et. al. v Saudi Aramco et. al.

Exhibit 4B

Exhibit 4B-1: Saudi Aramco Overview and Brief History;

Exhibit 4B-2: Technology Breakthroughs in Research Centers in the US;

Exhibit 4B-3: Saudi Aramco subsidiaries in the USA, and list of SA's
worldwide Joint Ventures, Affiliates and Subsidiaries.

(A total of 15 pages)

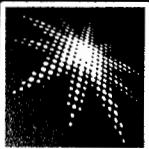
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Aramco

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Overview

Saudi Aramco is the state-owned oil company of the Kingdom of Saudi Arabia and a fully integrated, global petroleum and chemicals enterprise.

Over the past 80 years we have become a world leader in hydrocarbons exploration, production, refining, distribution and marketing.

Saudi Aramco's oil and gas production infrastructure leads the industry in scale of production, operational reliability, and technical advances. Our plants and the people who run them make us the world's largest crude oil exporter, producing roughly one in every eight barrels of the world's oil supply.

We manage proven conventional crude oil and condensate reserves of 261.1 billion barrels. Our average daily crude production is 10.2 million barrels per day (bpd), and we have stewardship of natural gas reserves of 297.6 trillion standard cubic feet (scf).

Headquartered in Dhahran, Saudi Arabia, with offices and operations throughout the Kingdom, we employ more than 65,000 workers worldwide.

Our subsidiaries and affiliates are located across the globe in Saudi Arabia, China, Egypt, Japan, India, the Netherlands, the Republic of Korea, Singapore, the United Kingdom and the United States.

Today, we continue to deliver on our core mission of reliably supplying energy to the Kingdom and the world, and continue to progress towards becoming the world's leading integrated energy and chemicals enterprise, a top refiner and a creator of energy technologies.

The men and women of Saudi Aramco are firmly dedicated to the resolution that energy is opportunity - a promise we are proud to honor to our customers, partners, and stakeholders every day.

Website

http://www.saudiamco.com

Industry

Oil & Energy

Company size

10,001+ employees
50,330 on LinkedIn


Type

Privately Held

Specialties

Oil Exploration, Drilling and Workover, Renewable Energy, Petroleum Engineering, Pipelines and Distribution, Refining, Project Management, Nursing, Medical and Dental, Gas Operations, Chemicals, Research & Development, Marine, Unconventional Gas, and Power Systems

Featured groups

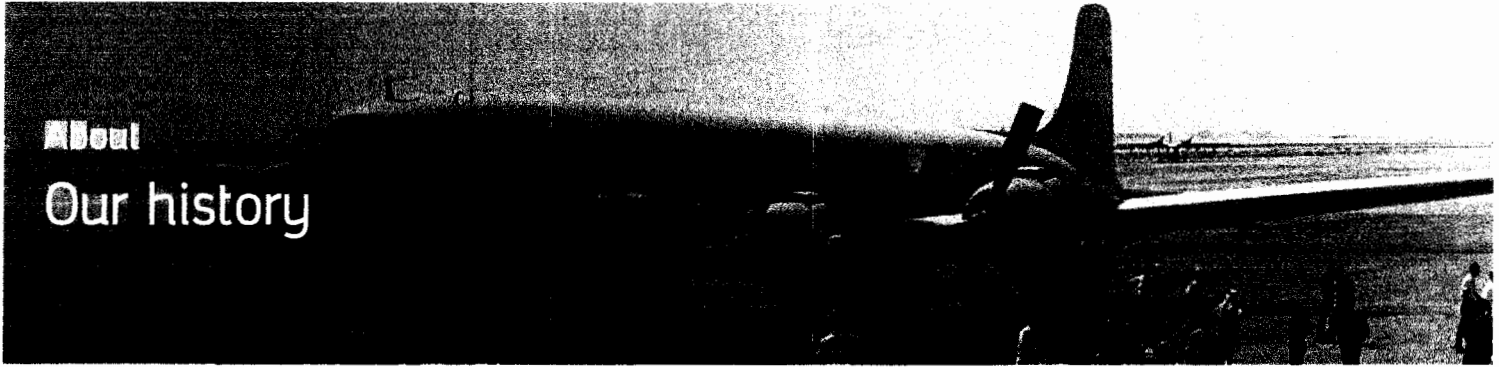


Saudi Aramco Alumni

4,843 members

Messaging

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Aramco Americas has called Houston home since in 1974. But our history reaches even farther back and includes some of the biggest names in oil.

Aramco Americas

In 1952, Aramco's headquarters moved from New York to Dhahran, Saudi Arabia, where the government began a gradual buyout of Aramco's assets. By 1980, the buyout was complete.

Many of the duties and services provided by the New York headquarters were moved to Houston in 1974, and a new company was formed: Aramco Services Company.

Today, Aramco Americas proudly serves as a vital link between Saudi Aramco, a world leader in energy, and North America.

Aramco Americas is a wholly owned Saudi Aramco subsidiary.

Saudi Aramco

The events that lead to the formation of our company were set in motion in 1933 when Saudi Arabia signed a historic concession agreement giving Standard Oil of California (Socal) and its wholly owned subsidiary, California Arabian Standard Oil Company (CASOC), permission to explore for oil. Two years later, The Texas Company (Texaco) acquired half of CASOC. In 1944 the combined entity was renamed Arabian American Oil Company, or Aramco.

Standard Oil Company (later Exxon) and Socony-Vacuum Oil Company (now known as Mobil) became part owners in 1948 to help open markets for the immense hydrocarbon reserves now being developed in Saudi Arabia. Aramco's headquarters moved from San Francisco to New York as part of this change in ownership.

At the time, Aramco also had offices in Los Angeles, Tulsa, Chicago, and Washington, D.C., to carry out various functions including recruiting, purchasing, and shipping in support of operations in Saudi Arabia.



Driven by the curiosity to explore

Starting with just a small group of intrepid explorers, the history of Saudi Aramco goes back more than 80 years to the sands of the Saudi desert.

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 Menu

Technology and innovation Technology breakthroughs

We are focused on strategic research that moves our work from the lab into the field. We are transferring knowledge and creating technologies that are applied to some of the world's largest onshore and offshore field developments.

Our work not only applies to the oil and gas industry, but also has far-reaching implications for other industries. We are developing innovative solutions to today's operational challenges while also looking ahead to create the energy breakthroughs that will power the future.



The Houston research center spans upstream disciplines and is strategically located in a major hub for the international oil-and-gas community.

Aramco Research Center – Houston

The Houston research center spans upstream disciplines and is strategically located in a major hub for the international oil-and-gas community, giving our research scientists access to industry partners as well as other research organizations and academia.

Focusing on upstream research and technology development that will help us achieve breakthroughs in the discovery and recovery of hydrocarbon resources, our team has expertise in production management, drilling, reservoir engineering, geology, geophysics, and subsurface sensing and control.

Our pioneering sensor technology has created faster and more cost effective ways of gathering well log data. Measuring produced fluids in a reservoir at different velocities and during different phases has become less complex with more accurate, proprietary multiphase metering. Our researchers are working at the most fundamental molecular level to understand and optimize the behavior of cements and other drilling fluids and to create a new generation of drilling muds, fluids and resin repair solutions.

Houston-based geoscientists are writing new chapters in establishing workflows and best practices for 3D printing of rocks with digital models maintaining accurate resolution and high fidelity in terms of geometry and topology.

High pressure, high temperature (HP/HT) extremes experienced with deepwater offshore wells are being studied as well as challenges faced by drilling and producing from unconventional reservoirs –shale, carbonate or tight sandstone — with unconventional rocks exhibiting their own unique characteristics and behavior.

In addition to our main facility with its various specialty labs, an annex building serves specifically to stage our Sensors Development Laboratory.



A researcher works with a microscope at Aramco Research Center – Boston.

Aramco Research Center – Boston

Our Boston center specializes in computational reservoir modeling, advanced separation systems and materials, nanotechnology, and novel corrosion-resistant materials for oil and gas and chemical applications. The center is located adjacent to the Massachusetts Institute of Technology (MIT) in Cambridge, an area with a long-standing reputation for innovation.

One of the center's initiatives has invented an entirely new material to increase crude to chemical conversion from 50 to 70 percent. Our researchers have taken another quantum leap with Aramco's reservoir simulation tool, TeraPOWERS, allowing engineers to virtually look inside a reservoir to view a formation with incredible detail.

Advancements with nanoparticles - particles that are 10,000 times smaller than a typical thickness of human hair – called Resbots, are underway. Injected into wells and traveling through the void spaces of rock, Aramco's Resbots retrieve valuable information to improve production, maximize recovery and locate new discoveries.

With the latest equipment and methods, Aramco is looking at an age-old problem, corrosion,

on the nanoscale. Our Advanced Materials Team is examining ways to control steel corrosion – costing trillions of dollars for a number of industries – not just oil and gas but others such as utilities, transportation, or infrastructure.

Our collaboration with MIT and throughout the region further engages us with other top researchers, innovative companies, national laboratories and governmental agencies to promote technology transfer and the mitigation of climate change through carbon reduction. This extends our reach into the fields of sustainable and renewable energy; carbon capture, utilization and storage; environmental sciences; energy storage; water conservation and reuse; and other technologies, including artificial intelligence and robotics.

From innovative materials used in heavy-hydrocarbon separation to the deployment of reservoir nanoagents for better monitoring and imaging, our multidisciplinary research in Boston is dedicated to working on key elements of complex energy challenges today and tomorrow.



Aramco Research Center - Detroit is a key contributor to Aramco's global fuels research program.

Aramco Research Center – Detroit

Our Detroit center is a key contributor to Aramco's global fuels research program by promoting the development and adoption of efficient, sustainable and affordable transport solutions for the future. The facility's research capacity encompasses very small engines such as a single-cylinder research engine to 1,000 horsepower heavy-duty on-road and stationary engines.

With a global refining presence, Aramco brings a unique perspective into how fuels can be designed and matched with engines – both current and future fuel-engine systems – for higher performance and lower emissions.

The 50,000-square-foot facility includes research related to fuel combustion and emissions, technology integration and strategic transport studies. The center is equipped with state-of-the-art engine dynamometer labs, including a vehicle integration lab featuring a chassis dynamometer for evaluating engine performance and identifying solutions to all types of system integration challenges.

Supporting facilities include a prototype engine build lab, fabrication shop, vehicle soak room, engine start-cart lab, and associated vehicle integration facilities. Our capabilities surrounding fuel design allow for back-to-back advanced fuel testing and blending.

Located in the Detroit suburb of Novi, we leverage the geographic excellence of being in the heart of North America's automotive industry. Working with universities, transportation companies and suppliers, research organizations, national labs and trade and automotive societies we are invested in the creation of low-carbon-footprint transportation technologies in support of reducing CO2 emissions from transport sources.

Mobile carbon capture and gasoline compression ignition (GCI) represent two of the major technologies advanced in both passenger vehicles and commercial fleet trucks to reduce carbon emissions.

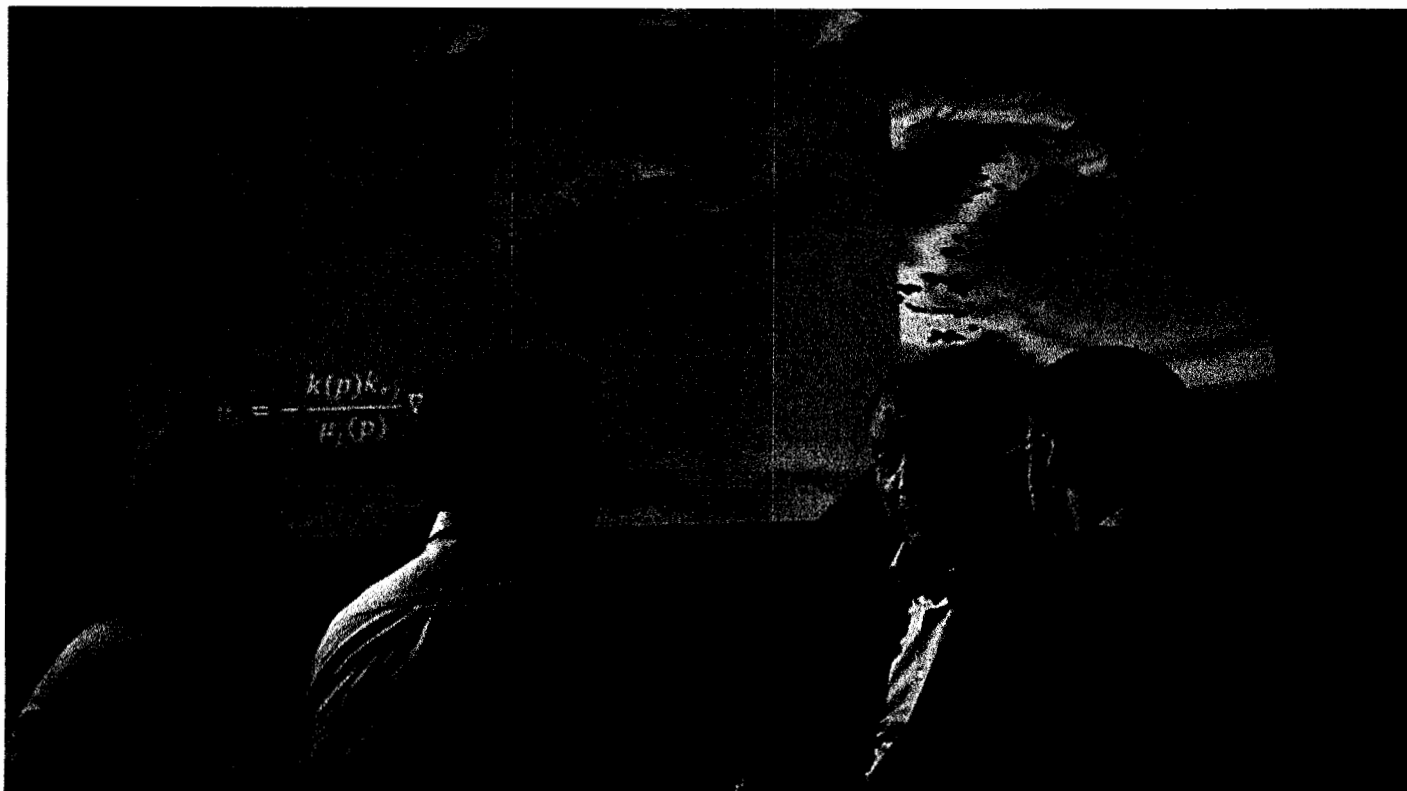


Our Detroit research center is a key contributor to Aramco's global fuels research program by promoting the development and adoption of efficient, sustainable and affordable transport solutions for the future.

Addressing Long-Range Energy Solutions

The goal of these centers is to bring top researchers, innovative companies, governmental agencies, and other stakeholders together to address global energy and climate challenges. Our commitment to R&D and collaboration underscores the importance we place on shaping the future with technology transfer and innovative solutions to address the world's increasing demand for energy.

Our teams of scientists and researchers work on identifying solutions that will have far-reaching impact, not only for Aramco, but for the world.



Global research centers

Aramco's global research network has facilities located in targeted innovation hubs in the United States, Europe, and Asia.

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Where energy is opportunity

Saudi Aramco is a fully integrated energy and chemicals enterprise and a world leader in exploration, production, refining, distribution, marketing, and manufacturing. Our Parent company also manages one of the world's largest proven conventional crude oil and condensate reserves and natural gas reserves. Headquartered in Dhahran, Saudi Arabia, Saudi Aramco employs more than 70,000 people around the world through various subsidiaries and joint ventures.



Saudi Aramco in Dhahran, Saudi Arabia.

U.S. Subsidiaries and Joint Ventures

We are a global company, with a number of partnerships, joint ventures, and subsidiaries around the world. Our U.S. subsidiaries are:

Aramco Services Company (ASC)

ASC is the Americas-based subsidiary of Saudi Aramco. Located in Houston, Texas, core services of ASC include managing a network of three U.S. research centers/technology offices in Houston, Boston, and Detroit; identifying upstream and downstream technologies, best practices and potential technology partners for Saudi Aramco; sourcing goods and services, engineering services; recruiting and training support for Saudi Aramco-sponsored students and employees in North America.

The office also provides business management services to Saudi Aramco project teams operating in North America, and conducts quality inspections for materials and equipment procured for Saudi Aramco.

Saudi Petroleum International, Inc. (SPII)

Based in New York City, Saudi Petroleum International, Inc. provides scheduling, loading, transportation, and delivery of Arabian crude oil to the U.S. and Canada, accounting for approximately 10 percent of all U.S. crude oil imports.

Saudi Refining, Inc. (SRI)

Saudi Refining, Inc. (SRI), with headquarters in Houston, is responsible for Saudi Aramco's downstream investments in North America. This includes ownership of Motiva Enterprises LLC, a leading refiner, distributor and marketer of petroleum products throughout the United States.

Aramco Training Services Company (ATSC)

Aramco Training Services Company administers technical and professional training programs that help place experienced Saudi Aramco employees in U.S.-based companies and facilities for

short-term training.

Aramco Performance Materials

Aramco Performance Materials LLC manages and markets Converge® polyols, which are manufactured using carbon dioxide as one of the feedstocks. Converge® polyols offer a high-performance, cost-competitive, and more sustainable alternative to conventional petroleum-based polyols.

Motiva Enterprises LLC

Motiva Enterprises LLC refines, distributes and markets petroleum products throughout the United States. Headquartered in Houston, Motiva owns and operates North America's largest refinery in Port Arthur, Texas with a crude capacity of more than 600,000 barrels a day. The company also operates the country's largest base oil plant and a network of 25 distribution terminals that support delivery of gasoline and diesel to more than 5,200 retail outlets under the Shell and 76® brands.

Our governance

Global presence

We are represented in the three major global energy markets of Asia, Europe and North America.

Saudi Aramco Joint Ventures

Domestic Joint Ventures and Affiliates

- JHAH - Johns Hopkins Aramco Healthcare
- LUBEREF - Saudi Aramco Lubricating Oil Refining Company
- PCPC - Power Cogeneration Plant Company
- PETRO RABIGH - Rabigh Refining & Petrochemical Company
- SADARA - Sadara Chemicals Company
- SAMREF - Saudi Aramco Mobil Refinery Company
- SATORP - Saudi Aramco Total Refining & Petrochemical Company
- YASREF - Yanbu Aramco Sinopec Refining Company Limited
- Arabian Rig Manufacturing Company
- IMI - International Maritime Industries
- ARO Drilling
- SANAD
- Engines & Pumps Manufacturing Joint Venture
- FPCC - Fadhli Plant Cogeneration Company
- Jasara Program Management Company

International Joint Ventures and Affiliates

- SUMED - Arab Petroleum Pipelines Company, Egypt
- TEAM Terminal, Europe
- S-Oil Corporation, South Korea
- Showa Shell, Japan
- Fujian Refining & Petrochemical Company Limited, China
- Motiva Enterprises, Houston, U.S. Saudi Petroleum International Inc, NY, U.S.
- Saudi Refining Inc, Houston
- Aramco Training Services Company, Houston
- KJO - Al Khafji Joint Operations, Saudi Arabia - Kuwait Neutral Zone
- Prefchem, Malaysia

Equity Investments

- MARAFIQ - Power & Water Utility for Jubail & Yanbu
- SABIC

Subsidiaries

Domestic

- Aramco Entrepreneurship Center
- SAEV - Saudi Aramco Energy Ventures
- ATC - Aramco Trading Company
- AGOC - Aramco Gulf Operations Company, Saudi Arabia-Kuwait Neutral Zone

- Wisayat Al Khaleej Investment Company
- Aramco Chemical Company
- Aramco Power
- King Salman Energy Park
- National Cloud Company
- National Cybersecurity Company
- SASREF - Saudi Aramco Shell Refining Company
- SARC - Saudi Aramco Retail Company
- Saudi Aramco Technologies Company

International

- AOC - Aramco Overseas Company, Europe
- ASC - Aramco Services Company, North and South America
- SAAC - Saudi Aramco Asia Company Ltd. Beijing, China

Government Affiliates

- DTVC - Dhahran Techno Valley Company
- KAPSRC - King Abdullah Petroleum Studies and Research Center
- KAUST - King Abdullah University of Science and Technology
- GCC Electrical Testing Laboratory
- KFUPM - King Fahd University of Petroleum and Minerals
- National Strategic Partnership Office
- Women Business Park

Government Affiliates National Academies

- NITI - National Industrial Training Institute
- SPSP - Saudi Petroleum Services Polytechnic
- ITQANI - Inspection Technology & Quality Assurance National Institute
- SADA - Saudi Arabian Drilling Academy
- National Aviation Academy
- National Construction Training Center
- National IT Academy
- National Leading Academy
- National Maritime Academy
- National Power Academy
- National Training Center for Facilities and Hospitality Management